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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,076	10/24/2003	Ronghua Wei	SWRI-2890-04	3382

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EXAMINER

LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 06/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,076

Applicant(s)

WEI ET AL.

Examiner

Michael La Villa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-108 is/are pending in the application.
4a) Of the above claim(s) 7-10 and 12-22 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 2, 6, 11, 23, 24, 28, 29, 33, 45, 46, 50, 66-72, 74-84, 97, and 101 is/are rejected.
7) ☒ Claim(s) 3-5, 25-27, 30-32, 34-44, 47-49, 51-65, 73, 85-96, 98-100 and 102-108 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
2. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 66, 67, 69-72, and 74-84, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Regarding Claims 66 and 67, it is unclear what is the antecedent basis of the phrase "said coating." Is this the "amorphous carbon coating" alone?
5. Regarding Claims 69-72, 74-82, and 84, it is unclear whether these claims further characterize the composition of the carbon containing gaseous deposition product of Claim 68 or whether they are improperly broadening. As improperly broadening, they do not relate to subject matter currently under examination.
6. Regarding Claim 83, it is unclear what is the antecedent basis of the phrase "said gaseous deposition product," as Claim 62 relates to an amorphous carbon gaseous deposition product.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1, 6, 11, 23, 28, 45, and 68 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Beldi et al. USPA 2003/0157345. Beldi et al. teaches

providing an interior surface of a beverage bottle with a vapor deposited carbon layer. See Beldi et al. (Figure 1; paragraphs 48, 78, 79; and Claims 10 and 11).

Beldi et al. does not specify the aspect ratios of those bottles, but teaches that the method is suitable for any conventional plastic beverage bottle. A bottle is a

tubular structure, albeit a bottle is typically only opened at one end. Commercial plastic beverage bottles come in a variety of shapes, including those with high

aspect ratios such as those claimed. It would have been obvious to one of

ordinary skill in the art at the time of the invention to apply the coatings of Beldi et al. to conventional plastic beverage bottles in order to confer the favorable

properties of Beldi's coatings for those substrates.

10. Claims 1, 2, 6, 11, 23, 24, 28, 29, 33, 45, 46, 50, 68, 97, and 101 are rejected

under 35 U.S.C. 103(a) as being unpatentable over Bokros USPN 4,300,244 in

view of Bokros USPN 4,169,477. Bokros '244 teaches coating the interior of a

tubular fabric sleeve with vapor deposited carbon coating. Bokros '244 does not

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exemplify a sleeve of the claimed aspect ratio. See Bokros '244 (col. 5, lines 22-57). Bokros '477 teaches particular sleeve structures to be carbon coated on an interior surface, wherein the aspect ratio is 20/5.5. See Bokros '477 (col. 2, lines 1-32; and col. 3, lines 27-54). It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate a sleeve with the coatings of Bokros '244 with a sleeve of the structure of Bokros '477, as Bokros '244 suggests that effective sleeve structures are provided by those described in Bokros '477. Bokros '244 recommends a range of effective carbon layer thicknesses, including the claimed range of more than 0.5 microns. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate a coated sleeve with claimed coating thicknesses as Bokros '244 suggests that effective articles may be made in this manner.

Response to Amendment

11. Except as repeated above for the reasons given above, the section 112, second paragraph rejections of the Office Action mailed on 24 March 2006 are withdrawn.


Allowable Subject Matter

12. With respect to carbon coatings, Claims 3-5, 25-27, 30-32, 34-44, 47-49, 51-65, 73, 85-96, 98-100, and 102-108 have not been rejected over the reviewed prior art. The reviewed prior art does not teach or suggest the claimed subject matter of tubular structures having structural and coating properties described by these claims when the coating material is gaseous deposition product of carbon.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (571) 272-1539. The examiner can normally be reached on Monday through Friday.
14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
11 June 2006


MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER